

Portland Harbor Food Web Model Internal Parameters not set at Arnot and Gobas (2004) default values

These are the 21 internal FWM parameters LWG calibrated from Monte Carlo runs instead of using Gobas defaults

None of these parameters have Portland Harbor site specific information available for them

A concern of several reviewers was why were model defaults being changed in the absence of site- or species-specific information

The table below lists the FWM parameter, its default Arnot and Gobas model value from AQUAWEB v1.2, and the current FWM values

Current FWM values are from a spreadsheet sent to Burt Shephard by Elizabeth Allen on 11/4/2014

Most of the current FWM values are on the 'Inputs' tab of the 11/4/2014 spreadsheet from Elizabeth Allen. Must unhide some rows to find all of the current FWM values

No.	Model parameter	AQUAWEB v1.2 default	Current Portland Harbor FWM value	Units	Comment
General biological parameters					
Resistance to chemical uptake through aqueous					
1	phase for phytoplankton (UA)	0.00006	0.00006	Unitless	
Resistance to chemical uptake through organic					
2	phase for phytoplankton (UR)	5.5	5.5	Unitless	
3	NLOM* octanol proportionality constant (Beta)	0.035	0.035	L/kg	
Species specific biological parameters					
<u>Zooplankton</u>					
4	Dietary absorption efficiency of lipid	0.75	0.72	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
5	Dietary absorption efficiency of NLOM	0.75	0.72	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
<u>Reserve invertebrate filter feeder (salmon)</u>					
6	Dietary absorption efficiency of lipid	0.75	0.75	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
7	Dietary absorption efficiency of NLOM	0.75	0.75	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
<u>Reserve invertebrate consumer</u>					
8	Dietary absorption efficiency of lipid	0.75	0.75	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
9	Dietary absorption efficiency of NLOM	0.75	0.75	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
<u>Terrestrial invertebrate consumer (crayfish)</u>					
10	Dietary absorption efficiency of lipid	0.75	0.75	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
11	Dietary absorption efficiency of NLOM	0.75	0.75	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 75%)
<u>Salmon</u>					
12	Dietary absorption efficiency of lipid	0.92	0.92	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 92%)
13	Dietary absorption efficiency of NLOM	0.60	0.60	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 60%)
<u>Larval fish (cod)</u>					
14	Dietary absorption efficiency of lipid	0.92	0.92	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 92%)
15	Dietary absorption efficiency of NLOM	0.60	0.60	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 60%)
<u>Cod</u>					
16	Dietary absorption efficiency of lipid	0.92	0.92	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 92%)
17	Dietary absorption efficiency of NLOM	0.60	0.60	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 60%)
<u>Smallmouth bass</u>					
18	Dietary absorption efficiency of lipid	0.92	0.92	Proportion	Smallmouth bass is only fish species default AQUAWEB v1.2 has in common with Portland Harbor FWM. Called Fish 12 in AQUAWEB. Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 90%)
19	Dietary absorption efficiency of NLOM	0.60	0.60	Proportion	Smallmouth bass is only fish species default AQUAWEB v1.2 has in common with Portland Harbor FWM. Called Fish 12 in AQUAWEB. Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 60%)
<u>Northern pike/minnow</u>					
20	Dietary absorption efficiency of lipid	0.92	0.92	Proportion	Parameter called alpha or default lipid absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 92%)
21	Dietary absorption efficiency of NLOM	0.60	0.60	Proportion	Parameter called beta or default NLOC/NLOM absorption efficiency in AQUAWEB v1.2. Given as a percentage in Gobas model (i.e. 60%)

* NLOM = non-lipid organic matter (e.g. proteins, nucleic acids)